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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,072	04/19/2004	Sujeet Kumar	2950.19US02	1878

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EXAMINER

HODGE, ROBERT W

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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08/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/827,072	Applicant(s) KUMAR ET AL.	
	Examiner ROBERT HODGE	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 43-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 43-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/15/08 has been entered.

Response to Arguments

Applicant's arguments, see Remarks, filed 7/15/08, with respect to the rejection(s) of claim(s) 1-3, 5, and 7-10 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 6,103,213.

The Examiner notes that the claim status indicators for claims 45-50 incorrectly identify the newly added claims as being "original". In an effort to accelerate prosecution the Examiner is not sending out a notice of non-compliant amendment and is therefore treating the claims as "new" claims, especially since it is clear from the record that claims 45-50 are not part of the original application and were added with the amendment filed 7/15/08.

Claim Objections

Claim 8 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitations of claim 8 are already recited in claim 1 and therefore dependent claim 8 does not further limit the scope of claim 1.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 5, 7-10, 43-45, 47, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,638,662 hereinafter Kaneda in view of U.S. Patent No. 6,103,213 hereinafter Nakamura.

With respect to claims 1-3, 5, 7, 43-45 47 and 49 Kaneda teaches a positive electrode active material of lithium cobalt nickel oxide ($\text{Li}_x\text{Ni}_y\text{Co}_{(1-x)}\text{O}_2$ wherein $0 \leq x \leq 1.2$ and $0 \leq y \leq 1$) having an average particle size of 3 to 40 nm. See Column 6, Lines 51-59.

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With respect to claims 1, 8, 9 and 43 Kaneda does not specifically disclose the particle size distribution of the lithium cobalt composite oxide.

Nakamura teaches a process for producing lithium-cobalt oxide particles wherein the final product of the production process yields lithium-cobalt oxide particles that have a narrow particle size distribution and a uniform small particle size (abstract and column 7, line 55 – column 8, line 24).

At the time of the invention it would have been obvious to one having ordinary skill in the art to provide lithium cobalt composite oxide particles that have a narrow particle size distribution and a uniform small particle size in Kaneda as taught by Nakamura which would yield the predictable result of preventing particles from being fused together while at the same time increasing the surface area of the particles which when used as the active material in a battery provide more active sites on the active material for reaction to occur thus increasing the overall efficiency of the battery. Furthermore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to optimize the distribution of particle sizes of the lithium cobalt composite oxide particles in Kaneda since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. In re Aller, 105 USPQ 233.

With respect to claims 10 and 50, Kaneda teaches the use of the lithium oxide as the cathode active material in a battery. See abstract.

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Claims 4, 6, 46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneda in view of Nakamura as applied to claims 1 and 43 above, and further in view of U.S. Patent No. 6,534,216 hereinafter Narukawa.

Kaneda as discussed above is incorporated herein.

Kaneda discloses the positive electrode active material including composite oxides such as lithium cobalt oxide, lithium nickel oxide, lithium manganese oxide, lithium nickel cobalt oxide, etc.

Kaneda does not specifically disclose the lithium cobalt oxide is $\text{Li}_2\text{CoMnO}_4$ or $\text{Li}_2\text{CoAlO}_2$.

Narukawa et al. teach a positive electrode active material for a non-aqueous electrolyte battery, wherein a portion of the lithium cobalt oxide may be substituted for a different kind of metal selected from the group consisting of Mg, Al, Ca, V, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Sr, Zr, Nb Mo and Sn. See Column 7, Lines 52-60. It can be understood that $\text{Li}_2\text{CoMnO}_4$, $\text{Li}_2\text{CoAlO}_2$ and $\text{Li}_2\text{CoNiO}_4$ are considered functionally equivalent positive electrode active materials.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute $\text{Li}_2\text{CoMnO}_4$ (or $\text{Li}_2\text{CoAlO}_2$) for $\text{Li}_2\text{CoNiO}_4$ as the positive electrode material in the battery disclosed by Kaneda that has the average diameter less than about 100 nm since the above compositions are shown to be art recognized equivalents by Narukawa.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HODGE whose telephone number is (571)272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Hodge/
Examiner, Art Unit 1795